



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

D2571
Job Sheet 173723



Part No: D2571

Job Qty: 10 ea

Part Name: Saddle, Fwd, Out



Part Weight: 0 lbs

Status: Scheduled

Priority: Medium

Job Created: 3/6/18

Job Tracking No:

Due Date: 3/30/18

Created By: Marie Lajeunesse

Type: Stock

Description:

Note: DWG REV F IPP: I 02.10.02 Re-format; Change to Dwg Rev. D & incorporated D2572 KJ

Ship Via:

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier		Sign-off
					Setup hrs	Run Hrs	Workcenter / Supplier	Lead Time	
90	Start up Operation	10 Ea		3/29/18	0.00	0.00	Start Up Machining		SB L 18/03/31
100	CNC Vertical Machining	10 pcs		3/29/18	0.57	16.13	HAAS 1		SB L 18/04/05
110	Mill Conv	10 pcs		3/29/18	0.00	1.54	Mill Conv 1		SB L 18/04/05
120	QC	10 pcs		3/29/18	0.00	0.00	QC2		SB L 18/04/05
130	QC	10 pcs		3/29/18	0.00	0.00	QC8		SB L 18-04-05
140	HandFinish	10 pcs		3/29/18	0.00	0.33	HandFinish1		SA 18-04-09
150	Powdercoat	10 pcs		3/30/18	0.00	0.40	Powdercoat1		DA 18-04-10
160	QC	10 pcs		3/30/18	0.00	0.00	QC3		11 APR 11 2018
170	Packaging	10 pcs		3/30/18	0.00	0.00	Packaging3	54397 6	9-89 APR 11 2018
180	QC21-SA	10 Ea		3/30/18	0.00	0.00	QC21	3-89	21

Part Op 100 - Program Batch No. _____ Double check by: _____ 1-Machine Step No 1 per Folio FA051 and inspect per attached Dimension Sheets 2-Machine Step No 2 per Folio FA051 and inspect per attached Dimension Sheets 3-Machine Step No 3 per Folio FA051 and inspect
110 - Machine keyway as per dwg D2571 & D2572
120 - Inspect on CMM as per folio CMM022.
150 - START TIME: 3:20 FINISH TIME: 3:00-OUT: 500° IN 138760.

Job BOM

Part / Item	Component Name	Quantity	Operation	Container
D6101-007	Saddle Billet	10 Ea (1 ea)	90-Start up Operation	

3055150 → 3057095

Job Allocations

Operation	Component Part	Required	Inventory	Allocated
90-Start up Operation	D6101-007	10	11	0

Part Specifications

Spec No	Description	Target/Tolerance	Limits	Type	Special Comments
1	Saddle, Fwd Outboard	0.438Inches + 0.005 - 0.000	0.443 0.438		
2	Saddle, Fwd Outboard	1.745Inches + 0.010 - 0.000	1.755 1.745		
3	Saddle, Fwd Outboard	3.495Inches + 0.010 - 0.000	3.505 3.495		

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS <table style="width:100%; border: none;"> <tr> <td style="width:15%;">Skid-tube ☐</td> <td style="width:15%;">Cross tube ☐</td> <td style="width:15%;">Water Jet ☐</td> <td style="width:15%;">Engineering ☐</td> </tr> <tr> <td>Machining ☐</td> <td>Small Fab ☐</td> <td>Prod. Eng. Coord. ☐</td> <td>Quality ☐</td> </tr> <tr> <td>Thermoforming ☐</td> <td>Finishing ☐</td> <td>Rec/Store/Packaging ☐</td> <td>Other ☐</td> </tr> <tr> <td>Large Fab ☐</td> <td>Composite ☐</td> <td>Supplier ☐</td> <td></td> </tr> </table>				Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐																																									
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Dart Aerospace Ltd. 1270 Aberdeen Street Hawkebury, ON K6A 1K7 CANADA TEL : 1 813 832-5200 Email: sales@dartaero.com www.dartaerospace.com DART AEROSPACE Container No: S057096 Part: D2571 Job No: 173723 Serial No/Batch: S057096 Revision: _____ Inspector: _____ Date: 03/01/18			Completed By _____																																																										
<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th colspan="4" style="text-align: left;">Root Cause</th> </tr> </thead> <tbody> <tr> <td style="width:15%;">Environment ☐</td> <td style="width:15%;"></td> <td style="width:15%;">No Re-verification ☐</td> <td style="width:15%;">Pressure/Forced ☐</td> </tr> <tr> <td>Design ☐</td> <td></td> <td>Operator ☐</td> <td>Bending ☐</td> </tr> <tr> <td>Doc/Data ☐</td> <td></td> <td>Offset/Setup ☐</td> <td>Centre Not Concentric ☐</td> </tr> <tr> <td>Equip/Tooling ☐</td> <td></td> <td>Supplier ☐</td> <td>Cracks ☐</td> </tr> <tr> <td>Handling/Pre ☐</td> <td></td> <td>Training ☐</td> <td>Crimp/Kink/Ripple/Wave ☐</td> </tr> <tr> <td>Material ☐</td> <td></td> <td>Use for Testing ☐</td> <td>Cuffs ☐</td> </tr> <tr> <td>Internal Transport ☐</td> <td></td> <td>Poor Information ☐</td> <td>Crushing ☐</td> </tr> <tr> <td>Tribal Knowledge ☐</td> <td></td> <td>Rushing ☐</td> <td>Heat Treat ☐</td> </tr> <tr> <td>LOA ☐</td> <td></td> <td>Product Improvement ☐</td> <td>Wave/Twist in Tube ☐</td> </tr> <tr> <td>Substation ☐</td> <td></td> <td>Process Improvement ☐</td> <td>Marks/Chatter ☐</td> </tr> <tr> <td>Past Expiry Date ☐</td> <td></td> <td>Manufacturing Process ☐</td> <td></td> </tr> <tr> <td>Misidentified ☐</td> <td></td> <td>Past Due ☐</td> <td></td> </tr> <tr> <td colspan="4" style="text-align: center;">OTHER : _____</td> </tr> </tbody> </table>						Root Cause				Environment ☐		No Re-verification ☐	Pressure/Forced ☐	Design ☐		Operator ☐	Bending ☐	Doc/Data ☐		Offset/Setup ☐	Centre Not Concentric ☐	Equip/Tooling ☐		Supplier ☐	Cracks ☐	Handling/Pre ☐		Training ☐	Crimp/Kink/Ripple/Wave ☐	Material ☐		Use for Testing ☐	Cuffs ☐	Internal Transport ☐		Poor Information ☐	Crushing ☐	Tribal Knowledge ☐		Rushing ☐	Heat Treat ☐	LOA ☐		Product Improvement ☐	Wave/Twist in Tube ☐	Substation ☐		Process Improvement ☐	Marks/Chatter ☐	Past Expiry Date ☐		Manufacturing Process ☐		Misidentified ☐		Past Due ☐		OTHER : _____			
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4	Saddle, Fwd Outboard	1.745Inches	+ 0.010 - 0.000	1.755 1.745
5	Saddle, Fwd Outboard	7.990Inches	+ 0.020 - 0.000	8.010 7.990
6	Saddle, Fwd Outboard	0.490Inches	+ 0.020 - 0.000	0.510 0.490
7	Saddle, Fwd Outboard	0.257Inches	+ 0.005 - 0.000	0.262 0.257
8	Saddle, Fwd Outboard	0.375Inches	+ 0.005 - 0.000	0.380 0.375
9	Saddle, Fwd Outboard	0.490Inches	+ 0.020 - 0.000	0.510 0.490
10	Saddle, Fwd Outboard	1.174Inches	+ 0.010 - 0.000	1.184 1.174
11	Saddle, Fwd Outboard	0.558Inches	+ 0.020 - 0.000	0.578 0.558
12	Saddle, Fwd Outboard	1.174Inches	+ 0.010 - 0.000	1.184 1.174
13	Saddle, Fwd Outboard	1.490Inches	+ 0.010 - 0.000	1.500 1.490
14	Saddle, Fwd Outboard	2.495Inches	+ 0.010 - 0.000	2.505 2.495
15	Saddle, Fwd Outboard	3.869Inches	+ 0.010 - 0.000	3.879 3.869
16	Saddle, Fwd Outboard	0.115Inches	+ 0.020 - 0.000	0.135 0.115
17	Saddle, Fwd Outboard	0.115Inches	+ 0.020 - 0.000	0.135 0.115
18	Saddle, Fwd Outboard	0.240Inches	+ 0.020 - 0.000	0.260 0.240
19	Saddle, Fwd Outboard	0.115Inches	+ 0.020 - 0.000	0.135 0.115
20	Saddle, Fwd Outboard	0.178Inches	+ 0.020 - 0.000	0.198 0.178
21	Saddle, Fwd Outboard	2.940Inches	+ 0.040 - 0.000	2.980 2.940
22	Saddle, Fwd Outboard	0.230Inches	+ 0.020 - 0.000	0.250 0.230
23	Saddle, Fwd Outboard	0.115Inches	+ 0.020 - 0.000	0.135 0.115
24	Saddle, Fwd Outboard	0.308Inches	+ 0.005 - 0.000	0.313 0.308
25	Saddle, Fwd Outboard	0.760Inches	+ 0.005 - 0.000	0.765 0.760
26	Saddle, Fwd Outboard	0.352Inches	+ 0.020 - 0.000	0.372 0.352
27	Saddle, Fwd Outboard	0.470Inches	+ 0.060 - 0.000	0.530 0.470
28	Saddle, Fwd Outboard	0.615Inches	+ 0.020 - 0.000	0.635 0.615
29	Saddle, Fwd Outboard	0.053Inches	+ 0.020 - 0.000	0.073 0.053
30	Saddle, Fwd Outboard	0.240Inches	+ 0.020 - 0.000	0.260 0.240
31	Saddle, Fwd Outboard	1.375Inches	+ 0.020 - 0.000	1.395 1.375
32	Saddle, Fwd Outboard	0.115Inches	+ 0.020 - 0.000	0.135 0.115
33	Saddle, Fwd Outboard	0.240Inches	+ 0.040 - 0.000	0.280 0.240
34	Saddle, Fwd Outboard	0.240Inches	+ 0.020 - 0.000	0.260 0.240
35	Saddle, Fwd Outboard	2.000Inches	+ 0.020 - 0.000	2.020 2.000
36	Saddle, Fwd Outboard	0.023Inches	+ 0.020 - 0.000	0.043 0.023

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval		
Description Work Order Deviation				Disposition					
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____							
Misidentified ☐	Past Due ☐								

DART AEROSPACE LTD	Work Order: 173 273
Description: Saddle, Fwd Outboard	Part Number: D2571
Inspection Dwg: D2571 Rev. F	Page 1 of 1

Inspect dimensions highlighted on inspection sheet drawing D2571 Rev. E and record below:

Dim	Min	Max	Go/No Go Gauge	Recorded Actual Dimensions				By	Date
				1	2	3	4		
A	0.438	0.443		.438	.438	.438	0.438		
B	1.745	1.755		1.749	1.749	1.750	1.750		
C	3.495	3.505		3.500	3.500	3.500	3.500		
D	1.745	1.755		1.749	1.749	1.750	1.750		
E	7.990	8.010		8.001	8.000	8.001	8.001		
F	0.490	0.510		.501	.501	.503	0.500		
G	0.257	0.262		.257	.257	.257	.257		
H	0.375	0.380		.375	.375	.375	.375		
I	0.490	0.510		.500	.501	.501	.500		
J	1.174	1.184		1.179	1.179	1.179	1.179		
K	0.558	0.578		.569	.570	.569	.569		
L	1.174	1.184		1.179	1.179	1.179	1.179		
M	1.490	1.500		1.495	1.495	1.495	1.495		
N	2.495	2.505		2.500	2.500	2.500	2.500		
O	3.869	3.879		3.875	3.874	3.874	3.874		
P	0.115	0.135		.127	.130	.126	.130		
Q	0.115	0.135		.124	.124	.125	.125		
R	0.240	0.260		.251	.252	.252	.252		
S	0.115	0.135		.128	.127	.126	.126		
T	0.178	0.198		.188	.188	.188	.188		
U	2.940	2.980		2.962	2.960	2.960	2.960		
V	0.230	0.250		.240	.241	.239	.240		
W	0.115	0.135		.120	.118	.118	.120		
X	0.308	0.313		.311	.311	.311	0.311		
Y	0.760	0.765		.760	.760	.760	.760		
Z	0.352	0.372		.365	.363	.363	.361		
AA	0.470	0.530		.500	.500	.500	.500		
AB	0.615	0.635		.625	.625	.625	.631		
AC	0.053	0.073		.062	.063	.065	.064		
AD	0.240	0.260		.250	.251	.249	.250		
AE	1.375	1.395		1.385	1.385	1.385	1.385		
AF	0.115	0.135		.133	.125	.130	.130		
AG	0.240	0.280		.250	.248	.254	.250		
AH	0.240	0.260		.252	.250	.250	.250		
AI	2.000	2.020		2.000	2.000	2.000	2.000		
AJ	0.023	0.043		.038	.053	.033	0.033		
Accept/Reject							DAS		

Measured by: SBL/ork	Audited by: 20
Date: 18/03/31	Date: 9-99 18-04-05

Rev	Date	Change	Revised by	Approved
B	02.09.24	Re-format; Added Rev. D	KJ	
C	02.10.11	Re-format; Added DT8682, DT8683, DT8684	KJ	
D	05.05.05	Added dimension AI	KJ/RF	
E	05.12.05	Added dimension AJ	KJ/JLM	
F	13.03.07	Dwg Rev updated	KJ	

DART AEROSPACE LTD	Work Order:	173 723
Description: Saddle, Fwd Outboard	Part Number:	D2571
Inspection Dwg: D2571 Rev. F		Page 2 of 3

Inspect dimensions highlighted on inspection sheet drawing D2571 Rev. E and record below:

Dim	Min	Max	Go/No Go Gauge	Recorded Actual Dimensions				By	Date
				5	6	7	8		
A	0.438	0.443		0.438	0.438	0.438	0.438		
B	1.745	1.755		1.745	1.750	1.75	1.75		
C	3.495	3.505		3.495	3.500	3.5	3.5		
D	1.745	1.755		1.750	1.750	1.75	1.75		
E	7.990	8.010		8.002	8.002	8.002	8.000		
F	0.490	0.510		0.501	0.502	0.505	0.505		
G	0.257	0.262		0.257	0.257	0.257	0.257		
H	0.375	0.380		0.375	0.375	0.375	0.375		
I	0.490	0.510		0.501	0.499	0.502	0.501		
J	1.174	1.184		1.179	1.179	1.179	1.179		
K	0.558	0.578		0.569	0.567	0.567	0.569		
L	1.174	1.184		1.179	1.179	1.179	1.179		
M	1.490	1.500		1.495	1.495	1.495	1.495		
N	2.495	2.505		2.500	2.500	2.500	2.5		
O	3.869	3.879		3.874	3.875	3.875	3.875		
P	0.115	0.135		0.132	0.130	0.132	0.128		
Q	0.115	0.135		0.125	0.125	0.125	0.125		
R	0.240	0.260		0.252	0.251	0.252	0.252		
S	0.115	0.135		0.127	0.129	0.126	0.126		
T	0.178	0.198		0.188	0.188	0.188	0.188		
U	2.940	2.980		2.960	2.960	2.960	2.960		
V	0.230	0.250		0.241	0.240	0.239	0.240		
W	0.115	0.135		0.120	0.124	0.125	0.121		
X	0.308	0.313		0.311	0.312	0.311	0.311		
Y	0.760	0.765		0.760	0.760	0.760	0.760		
Z	0.352	0.372		0.365	0.363	0.363	0.363		
AA	0.470	0.530		0.500	0.500	0.500	0.500		
AB	0.615	0.635		0.627	0.627	0.628	0.631		
AC	0.053	0.073		0.064	0.063	0.063	0.063		
AD	0.240	0.260		0.251	0.250	0.253	0.251		
AE	1.375	1.395		1.375	1.375	1.375	1.375		
AF	0.115	0.135		0.128	0.130	0.125	0.123		
AG	0.240	0.280		0.250	0.250	0.250	0.250		
AH	0.240	0.260		0.252	0.252	0.250	0.250		
AI	2.000	2.020		2.000	2.000	2.000	2.000		
AJ	0.023	0.043		0.033	0.033	0.033	0.033		
Accept/Reject							DAS		

Measured by: SBC
Date: 18/04/01

Audited by: 20
Date: 18-04-05

Rev	Date	Change	Revised by	Approved
B	02.09.24	Re-format; Added Rev. D	KJ	
C	02.10.11	Re-format; Added DT8682, DT8683, DT8684	KJ	
D	05.05.05	Added dimension AI	KJ/RF	
E	05.12.05	Added dimension AJ	KJ/JLM	
F	13.03.07	Dwg Rev updated	KJ	

DART AEROSPACE LTD	Work Order: 173 723	
Description: Saddle, Fwd Outboard	Part Number:	D2571
Inspection Dwg: D2571 Rev. F	Page 3 of 3	

Inspect dimensions highlighted on inspection sheet drawing D2571 Rev. E and record below:

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B	1.745	1.755		1,750	1,750				
C	3.495	3.505		3,500	3,500				
D	1.745	1.755		1,750	1,750				
E	7.990	8.010		8,001	8,001				
F	0.490	0.510		500	500				
G	0.257	0.262		257	257				
H	0.375	0.380		375	375				
I	0.490	0.510		500	500				
J	1.174	1.184		1,174	1,174				
K	0.558	0.578		568	568				
L	1.174	1.184		1,174	1,174				
M	1.490	1.500		1,495	1,495				
N	2.495	2.505		2,500	2,500				
O	3.869	3.879		3,875	3,874				
P	0.115	0.135		120	130				
Q	0.115	0.135		125	125				
R	0.240	0.260		251	251				
S	0.115	0.135		126	126				
T	0.178	0.198		188	188				
U	2.940	2.980		2,960	2,960				
V	0.230	0.250		240	241				
W	0.115	0.135		120	120				
X	0.308	0.313		311	311				
Y	0.760	0.765		760	760				
Z	0.352	0.372		361	361				
AA	0.470	0.530		500	500				
AB	0.615	0.635		625	625				
AC	0.053	0.073		063	063				
AD	0.240	0.260		251	251				
AE	1.375	1.395		1,385	1,385				
AF	0.115	0.135		130	130				
AG	0.240	0.280		250	250				
AH	0.240	0.260		250	250				
AI	2.000	2.020		2,000	2,000				
AJ	0.023	0.043		0,033	0,033				
Accept/Reject								DAS	

Measured by: SBC
Date: 18/04/05

Audited by: 20
Date: 9-89 18-04-05

Rev	Date	Change	Revised by	Approved
B	02.09.24	Re-format; Added Rev. D	KJ	
C	02.10.11	Re-format; Added DT8682, DT8683, DT8684	KJ	
D	05.05.05	Added dimension AI	KJ/RF	
E	05.12.05	Added dimension AJ	KJ/JLM	
F	13.03.07	Dwg Rev updated	KJ	